Amanda S. Kahn

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EDUCATION

Ph.D. Ecology, University of Alberta	2016
M.S. Marine Science, Moss Landing Marine Laboratories, CSU Monterey Bay	2010
B.S. Biological Sciences, B.A. Chemistry, CSU East Bay	2007

PROFESSIONAL APPOINTMENTS

Assistant Professor (San Jose State University/MLML)	2019 - present
Postdoctoral Fellow (Monterey Bay Aquarium Research Institute)	2018-2019
Postdoctoral Researcher (University of Alberta)	2016-2018

PUBLICATIONS

See Google Scholar profile for a complete, up-to-date list, including citation indices: https://scholar.google.ca/citations?hl=en&user=Cq1iuicAAAAJ. Advised student co-authors are underlined.

Leys, S.P., E.J.K. Esposito, **A.S. Kahn** (submitted). The phsyiology of sponge behaviour. Annual Reviews.

Leys, S.P., E. Matveev, P. Aragonés Suarez, **A.S. Kahn**, S. Saeed Asadzadeh, T. Kiørboe, P.S. Larsen, J.H. Walther, G. Yahel (2022). Matters Arising 'Models of flow through sponges must consider the sponge tissue'. *Nature*, 603(7902):E23-E25, doi: 10.1038/s41586-021-04380-8.

Starr, R., J. Caselle, **A.S. Kahn**, A. Lauermann, J. Lindholm, B. Tissot, S. Ziegler, C. Bretz, P. Carlson, K. Cieri, J. Hoeke, C. Jainese, G. Martel, S. McDermott, J. Mohay, and P. Salinas-Ruiz (2022). Monitoring and evaluation of mid-depth rock ecosystems in the California MLPA Marine Protected Area network. Report to the Ocean Protection Council, Project R/MPA-48. January 2022. 145 pp.

Archer, S.K., **A.S. Kahn**, M. Thiess, L. Law, S.P. Leys, S.C. Johannessen, C.A. Layman, L. Burke, and A. Dunham (2020). Foundation species abundance influences food web topology on glass sponge reefs. *Frontiers in Marine Science*, 7:799, doi: 0.3389/fmars.2020.549478.

Saxena, S., P. Heller, **A.S. Kahn**, and I. Aiello (2020). Poriferal Vision: Classifying benthic sponge spicules to assess historical impacts of marine climate change. *Foundations of Intelligent Systems*, 205-213 , doi: 10.1007/978-3-030-59491-6_19.

Law, L.K., H.M. Reiswig, B.S. Ott, N. McDaniel, **A.S. Kahn**, K.C. Guillas, C. Dinn, and S.P. Leys (2020). Description and distribution of *Desmacella hyalina* sp. Nov. (Porifera, Desmacellidae), a new cryptic demosponge in glass sponge reefs from the western coast of Canada. *Marine Biodiversity*, 50(4):1-20, doi: 10.1007/s12526-020-01076-6.

Kahn, A.S., C.W. Pennelly, and S.P. Leys (2020). Behaviors of sessile benthic animals in the abyssal Northeast Pacific Ocean. *Deep Sea Research Part II: Topical Studies in Oceanography*, 173:104729, doi: 10.1016/j.dsr2.2019.104729.

Guillas, K.C., **A.S. Kahn**, N. Grant, S.K. Archer, A. Dunham, S.P. Leys (2019). Settlement of juvenile glass sponges and other invertebrate cryptofauna on the Hecate Strait glass sponge reefs. *Invertebrate Biology*, 138:e12266, doi: 10.1111/ivb.12266.

Leys, S.P., J.L. Mah, P.R. McGill, L. Hamonic, and **A.S. Kahn** (2019). Sponge behavior and the chemical basis of responses: a post-genomic view. *Integrative and Comparative Biology*, 59(4):751-764. doi: 10.1093/icb/icz122.

Grant, N., E. Matveev, **A.S. Kahn**, S.K. Archer, A. Dunham, R. Bannister, D. Eerkes-Medrano, and S.P. Leys (2019). Effect of suspended sediments on the pumping rates of three species of glass sponge *in situ*. *Marine Ecology Progress Series,* 615:79-101. doi: 10.3354/meps12939.

Leys, S.P., and **A.S. Kahn** (2018). Oxygen and the energetic requirements of the first multicellular animals. *Integrative and Comparative Biology*, icy051. doi: 10.1093/icb/icy051.

Kahn, A.S., and J.B. Geller (2018). Partial mitochondrial genome sequences of two abyssal sponges (Porifera, Hexactinellida): *Bathydorus laniger* and *Docosaccus maculatus*. *Genome Announcements* 6e:00234-18, doi: 10.1128/genomeA.00234-18.

Grant, N., E. Matveev, **A.S. Kahn**, S.P. Leys (2018). Suspended sediment causes feeding current arrests *in situ* in the glass sponge *Aphrocallistes vastus*. *Marine Environmental Research*, 137:111-120. doi: 10.1016/j.marenvres.2018.02.020.

Kahn, A. S., J.W.F. Chu, and S.P. Leys (2018). Trophic ecology of glass sponge reefs in the Strait of Georgia, British Columbia. *Scientific Reports* 8:756, doi: 10.1038/s41598-017-19107-x.

Archer, S.K., **A.S. Kahn**, T. Norgard, F. Girard, C. Du Preez, and A. Dunham (2018). Pyrosome consumption by benthic organisms during blooms in the NE Pacific and Gulf of Mexico. *Ecology*, 99(4):981-984, doi: 10.1002/ecy.2097.

Leys, S.P., **A.S. Kahn**, J.K.H. Fang, T. Kutti, and R. Bannister (2017). Phagocytosis of microbial symbionts balances the carbon and nitrogen budget for the deep-water boreal sponge *Geodia barretti*. *Limnology and Oceanography*, 63(1):187-202, doi:10.1002/lno.10623.

Kahn, A.S., and S.P. Leys (2017). Spicule and flagellated chamber formation in a growth zone of *Aphrocallistes vastus* (Porifera; Hexactinellida). *Invertebrate Biology*, 136(1): 22-30, doi: 10.1111/ivb.12155.

Kahn, A.S., and S.P. Leys (2016). The role of cell replacement in benthic-pelagic coupling by suspension feeders. *Royal Society Open Science* 3(11), 160484, doi: 10.1098/rsos.160484.

Kahn, A.S., L. Vehring, R.R. Brown, and S.P. Leys (2016). Dynamic change, recruitment, and resilience in reef-forming glass sponges. *Journal of the Marine Biological Association of the United Kingdom,* 96(2):429-436.

Kahn, A.S., G. Yahel, J.W.F. Chu, V. Tunnicliffe, and S.P. Leys (2015). Benthic grazing by deep-water glass sponge reefs. *Limnology and Oceanography*, 60(1):78-88, doi: 10.1002/lno.10002.

Kahn, A.S., J.B. Geller, H.M. Reiswig, and K. L. Smith, Jr. (2013). *Bathydorus laniger* and *Docosaccus maculatus* (Lyssacinosida; Hexactinellida): Two new species of glass sponges from the abyssal eastern North Pacific Ocean. *Zootaxa,* 3646:386-400.

Kahn, A.S., H.A. Ruhl, and K.L. Smith, Jr. (2012). Temporal changes in plate sponge populations in the abyssal northeast Pacific. *Deep-Sea Research Part I,* 70:36-41, doi: 10.1016/j.dsr.2012.08.001.

Kahn, A.S., G.I. Matsumoto, Y.M. Hirano, and A.G. Collins (2010). *Haliclystus californiensis*, a "new" species of stauromedusa (Cnidaria: Staurozoa) from the northeast Pacific, with a key to the species of *Haliclystus*. *Zootaxa*, 2518:49-59, doi: 10.11646/zootaxa.2518.1.3.

Patty, C., B. Barnett, B. Mooney, **A. Kahn**, S. Levy, Y. Liu, P. Pianetta, and J. Andrews (2009). Using X-ray microscopy and Hg L_3 XANES to study Hg binding in the rhizosphere of *Spartina* cordgrass. *Environmental Science and Technology*, 43(19):7397-7402, doi: 10.1021/es901076q.

GRANTS AND CONTRACTS

2022-2023 Elkhorn Slough Foundation. Elkhorn Slough Tidal Marsh Restoration: Phase III ($280,000). PI: Luke Gardner (MLML/CA Sea Grant Extension), Co-PIs: Michael Graham & Amanda Kahn (MLML/San Jose State University).

2022-2023 (Pending) California Sea Grant (R/SFA-11). Using energetics and metabolism to enhance Olympia oyster aquaculture and outplanting success ($59,877). PI: Amanda Kahn (MLML/San Jose State University). Co-PIs: Luke Gardner (MLML/CA Sea Grant Extension), Kerstin Wasson (Elkhorn Slough National Estuarine Research Reserve) + Cash match from CSU COAST ($29,974).

2020-2021* SJSU Level-Up Grant. Poriferal Vision: Using past records and machine learning to predict the future winners of climate change ($19,671). PI: Amanda Kahn (MLML/SJSU). Co-PIs: Philip Heller (SJSU), Ivano Aiello (MLML/SJSU).
*6-month no-cost extension into 2022 due to COVID-19 delays

2019-2021* California Sea Grant (R/MPA-48). Monitoring and evaluation of mid-depth rocky reef ecosystems in the MLPA marine protected area (~$606,000 to MLML [$2.4 M total]). Lead PI is Richard Starr (MLML/San Jose State University); Co-PIs Jennifer Caselle (UC Santa Barbara), Andrew Lauermann (Marine Applied

Research and Exploration), James Lindholm (CSU Monterey Bay), and Brian Tissot (Humboldt State University).
*Grant extended to 2022 with additional funds

PRESENTATIONS

Conference Presentations (* indicates presentations that won awards) († indicates interruptions by events surrounding the COVID-19 pandemic)

2022

Aquaculture 2022, San Diego, CA (1 talk done by graduate student J Harris)

2021

† Deep-Sea Biology Symposium, virtual (1 talk done by collaborator)

† Association for the Sciences of Limnology and Oceanography, summer meeting, special invited session, virtual (1 talk)

† Society for Integrative and Comparative Biology (SICB), virtual (2 talks)

2020

† Western Society of Naturalists, virtual (1 poster, done by collaborator)

† International Congress on Invertebrate Morphology (ICIM), Vienna, Austria (1 talk, done by collaborator)

† International Symposium on Methodologies for Intelligent Systems (ISMIS), Graz, Austria (1 talk, done by collaborator's student)

Ocean Sciences Meeting, San Diego, California (3 posters, all done by collaborators)

SICB, Austin, Texas (1 talk)

2019

International Deep Sea Coral Symposium, Cartagena, Colombia (1 talk, 1 poster, both presented by collaborators)

SICB, Tampa, Florida (1 invited symposium talk, 1 poster)

2018

Canadian Meteorological and Oceanographic Society, Halifax, Nova Scotia (poster)

Association for the Sciences of Limnology and Oceanography summer meeting, Victoria, British Columbia (poster)

Ocean Sciences Meeting, Portland, Oregon (oral presentation)

SICB, San Francisco, California (2 talks)

2017

Institute of Geophysical Research Symposium, Edmonton, Alberta (talk)

World Sponge Conference, Galway, Ireland (speed talk, 2 posters)

SICB, New Orleans, Louisiana (poster)

R.E. Peter Biology Conference, Edmonton, Alberta (talk*)

2016

SICB, Portland, Oregon (talk, poster)

2015

Canadian Society of Zoologists, Calgary, Alberta (talk)

SICB, West Palm Beach, Florida (talk*, poster)

2014

Ocean Sciences Meeting, Honolulu, Hawaii (poster)

2013

World Sponge Conference, Fremantle, Australia (talk*, poster)

Northwest Developmental Biology Meeting, Friday Harbor, Washington (talk)
SICB, San Francisco, California (talk)

2012

Graduate Residence Research Conference, Edmonton, Alberta (poster*)
Northwest Developmental Biology Meeting, Friday Harbor, Washington (poster)

2010

World Sponge Conference, Girona, Spain (talk)
Deep-Sea Biology Symposium, Reykjavik, Iceland (poster)
Monterey Bay National Marine Sanctuary Currents Symposium (poster)

2008

Monterey Bay National Marine Sanctuary Currents Symposium (poster*)
Ocean Sciences Meeting, Orlando, Florida (talk)

2007

Society of Wetland Scientists annual meeting, Sacramento, California (talk)

2006

American Chemical Society National Conference, San Francisco, California (poster)

Invited Presentations

Kahn, A.S. (2021). The secret lives of sponges: understanding ancient animals at their own pace. Global Biodiversity Festival, an international virtual festival (https://www.globalbiofest.com/2021).

Kahn, A.S. (2021). Keynote speaker for the 2021 GLOBE+ Virtual Student Research Symposium. GLOBE encourages experiential learning and scientific research in K-12 disciplines.

Kahn, A.S. (2020). The secret life of sponges: Energy flow in the deep ocean from a suspension feeder's perspective. Invited seminar to the College of Science at San Jose State University (presented virtually due to COVID-19 pandemic).

Kahn, A.S. (2020). Keynote speaker for the Globe Pacific Student Research Symposium, Elkhorn Slough National Estuarine Research Reserve. †Canceled due to COVID-19 pandemic.

Kahn, A.S. (2019). Energy flow in ecosystems from a suspension feeder's perspective. Invited departmental seminar at California State University, Monterey Bay. (May 6, 2019).

Kahn, A.S. (2019). Sustainability and the Deep Ocean. Invited TED-style lecture at GreenTalks'19, San Jose State University, San Jose, California. (April 29, 2019).

Kahn, A.S. (2019). Life, turmoil, and abundance in Monterey Bay: how we study it and what sponges have to do with it. Distinguished Lecturer oral presentation at the International Reliability Physics Symposium in Monterey, California.

Leys, S.P. and A.S. Kahn (2018). Invited team seminar at Bamfield Marine Sciences Centre.

Kahn, A.S. (2018). Sessile animals and the cost of living on the deep seafloor. Invited presentation to the Boad of Directors of the Monterey Bay Aquarium Research Institute.

Kahn, A.S. (2014). Invited seminar at Bamfield Marine Sciences Centre.

Kahn, A.S. (2013). Ecosystem services provided by glass sponge reefs. Invited presentation at a workshop led by the BC chapter of the Canadian Parks and Wilderness Society (CPAWS-BC).

Kahn, A.S. (2009). Expanding the toolset for studying the ecology of deep-sea sponges. Invited seminar at California State University, East Bay.

Workshops

Invited participant at a small workshop, "Aquatic Collisions in Symbiosis", organized by the Gordon and Betty More Foundation and the Chan-Zuckerberg Initiative. November 7, 2019, San Francisco, CA.

TEACHING EXPERIENCE (* indicates graduate level courses)

Courses taught: (at Moss Landing Marine Laboratories unless stated otherwise)

Population Biology*
Subtidal Ecology* (co-instructor with Scott Hamilton and Diana Steller)
Graduate Seminar in Marine Science
Invertebrate Zoology
Molecular Biological Techniques* (co-instructor with Sarah Smith)
Scientific Writing*
Marine Biology (University of Alberta)

Guest Lecturer in University Courses:

Marine Ecology (CSUMB, MLML, Daytona State College)
Marine Biology (University of Alberta)
Science Communication (University of Guelph)
Seminar & paper discussion course (Bamfield Marine Sciences Centre)
Survey of the Invertebrates (University of Alberta, SJSU)
Marine Ecology (MLML)

Teaching assistantships:

Marine Biology (University of Alberta)	2014-2015
Invertebrate Zoology (University of Alberta)	2011, 2016
Marine Ecology (MLML)	2009

MENTORING EXPERIENCE

Assistant Professor, Moss Landing Marine Laboratories

Advisor: 5 M.S. students (0 finished, 5 current)
Co-advisor: 10 M.S. Students (1 finished, 9 current)
Thesis committee member: 16 M.S. students (3 finished)
Undergraduate mentor: 5 interns (2 REU, 2 UROC, 1 volunteer); plus 8 undergraduate students while I was a PhD student and postdoc.

RELEVANT SKILLS AND PROFESSIONAL DEVELOPMENT

Scuba Diving

AAUS Scientific Diver (NAUI Master Scuba Diver, PADI Rescue Diver):
187 dives logged: from Central California, Lake Tahoe, British Columbia.

Ship time: 268 days at sea.

Cruises took place in Monterey Bay, Point Conception, Norwegian fjords, the Strait of Georgia and Hecate Strait, British Columbia, and the Weddell Sea.

Pedagogical Training

SJSU Purposeful Pivoting for Academic Continuity	2022
SJSU Teach Online Summer Certificate Program	2020
Facul-tea Pedagogy Quick Bites webinar: Bloom's Revised Taxonomy	2020

National Center for Faculty Development and Diversity

Teaching in No Time	2019
Core curriculum	2019

Boating

California Boatings and Waterways Card with BoatUS boating safety training	2019
MLML Boating Safety Course (2-day classroom and practical course)	2019

Other Professional Development Training

Diversifying the Ocean Community through Collaboration program	2022
SJSU University Grants Academy, training in grantsmanship	2021
Unlearning Racism in Geoscience, Monterey Bay Pod	2021

PROFESSIONAL SERVICE

MLML Committees

Dive Control Board, co-chair	2019-present
Diversity, Equity, and Inclusion Committee, co-chair	2020-present
Curriculum Committee, member	2020-present
Small Boats Committee, member	2020-present
Technology Advisory Committee, member	2020-2022
Animal Care and Use Committee, member	2020-2021

University Service

MLML Scholarship adjudication committee	2021

Peer Review

- Grant reviewer, CSU COAST
- Journal manuscripts reviewed for: Canadian Field Naturalist, Deep-Sea Research I, Deep-Sea Research II, Journal of Coastal Development, Journal of the Marine Biological Association of the United Kingdom, Limnology and Oceanography, Marine Ecology Progress Series, Marine Environmental Research, PLoS One, Progress in Oceanography, Scientific Reports, Sea Research, Systematics and Biodiversity.

Scientific Societies

- Society for Integrative and Comparative Biology (SICB)
    - 2014–2017: Student/Postdoc Representative, SICB Division of Evolutionary and Developmental Biology.
- Society of Women in Marine Science (SWMS)
- American Academy of Underwater Scientists (AAUS)
- Association for the Sciences of Limnology and Oceanography (ASLO)
    - Co-organizer of the special session "Food Web Interactions and Trophic Linkages" at the Association for the Sciences of Limnology and Oceanography (ASLO) meeting, 2018.
- Vice President, External and Steering Committee for Canadian Ocean Awareness Student Network (COAStNet), a network of ocean sciences students in Canada, June 2013 – 2016.

Other service and outreach commitments

- Interim Regional Co-Coordinator, NE Pacific Research Working Group for Challenger 150, a UN Ocean Decade program (2021-)

- Member, OceanVisions & MBARI Expert Working Group: Designing a Framework for Responsible Research to Evaluate CO_2 Removal and Environmental Effects of Sinking Marine Biomass (2021-)
- Science consultant/expert for sponge morphology for the Deep Sea exhibit development at the Monterey Bay Aquarium (2019-2021).
- Training talk about deep-sea biology to Teen Conservation Leaders, Monterey Bay Aquarium (July 2021)
- Faculty representative, Monterey Area Research Institutions' Network for Education (MARINE) (2021-present)
- Co-organizer of the special session "Food Web Interactions and Trophic Linkages" at the Association for the Sciences of Limnology and Oceanography (ASLO) meeting, 2018.
- Elections co-officer, Postdoctoral Fellows Association, University of Alberta. November 2016 – January 2017.
- Treasurer for the Moss Landing Marine Laboratories student body government in 2008.
- Member on the Institutional Animal Care and Use Committee (IACUC) three years at CSU East Bay.
- Vice-President and president of Hayward Environmental Awareness Team (HEAT) environmental club at CSU East Bay.

OUTREACH ACTIVITIES

- Science mentor for the Monterey Bay Aquarium's Watsonville Area Teens Conserving Habitats (WATCH) program August 2018 – May 2019.
- Invited speaker for outreach/public engagement:
    - Invited speaker for the National Marine Sanctuaries' Deep-Sea Soiree (November 2021).
    - Aqua Tutus Diving Club, "An Aqua Tutus Member's Journey: from being a diver to becoming a researcher studying the secret life of sponges", June 2021.
    - Career panel at MLML, December 6, 2018.
    - Monterey Peninsula College Women in STEM club, November 15, 2018.
- Workshop organizer: "Fantastic Deep-Sea Beasts and Where to Find Them" at the Expanding Your Horizons STEM conference for middle-school aged girls interested in STEM careers. November 17, 2018.
- Public seminars given at the Monterey Bay Aquarium Research Institute's Open House 2018. "The Secret Lives of Sponges: Not Just For Your Dirty Dishes!"
- "Ask a Marine Biologist" Organizer. Initiated contact with TELUS World of Science Edmonton, then organized, coordinated, led, and participated in outreach and public education in organized activities, beginning June 2013. Contact person: Vince Avery.
- Co-Founder and Administrator of "The Madreporite", a student-run blog for students from BMSC (http://bmscblog.wordpress.com/), June 2012 – May 2016.
- Volunteer with WISEST Choices conference. Encouraging 6th grade girls to pursue interests in science and technology. February 21-22, 2012.
- Wrote daily science outreach entries from an Antarctic cruise (http://www.mbari.org/expeditions/Antarctic09/).
- Interviews:

- The Accidental Geographer (podcast): https://www.sjsu.edu/provost/communications/podcast/season-1/amanda-kahn.php
- Blago's Round Table (podcast): https://www.youtube.com/watch?v=vfRI1_8VX94 (Part 1), https://www.youtube.com/watch?v=JVN32_LbXK0 (Part 2)
- Shape of life (web page): https://www.shapeoflife.org/news/featured-scientist/2021/10/11/amanda-kahn-assistant-professor-moss-landing-marine-laboratories